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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,946	10/06/2003	Richard Stewart Garber	1945.173USU1	3595

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EXAMINER	
HAILU, KIBROM T	
ART UNIT	**PAPER NUMBER**
2616	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No.	Applicant(s)
	10/679,946	GARBER, RICHARD STEWART
	Examiner	Art Unit
	Kibrom T. Hailu	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,6,8-10,12 and 13* is/are rejected.

7)☒ Claim(s) *3,5,7 and 11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 8 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitations "detecting a logic 1 when the number of transitions are substantially before the bit-center" and "detecting a logic 0 when the number of transitions is substantially after the bit-center" render the claims indefinite because it is unclear as to what is claimed. For the purpose of further examination they are considered as "logic 1 represented by transitions in the second half of the bit frame or signal, and logic 0 is represented by the transitions in the first half of the bit frame or signal". Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

   1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eng (US 5,963,557) in view of Lee (US 5,627,828).

Regarding claim 1, Eng disclsoses a data collision detection device for decoding received signals from data transmitters (see fig. 14, collision detection 290 and demodulator and decoder 276 and/or 282), comprising: a means for de-modulating (276 and/or 282) at least one modulated carrier signal corresponding to a received signal from at least one data transmitter (RF transmitter 256) (fig. 14; col. 16, lines 64-66); and a module operatively coupled with the means for de-modulating (fig. 14, demodulator and decoder 282), the module including a means for decoding (276 and 282) a recovered subcarrier signal recovered from the means for de-modulating (fig. 14).

Eng further discloses being capable of detecting a data collision within the recovered subcarrier signal in the presence of a plurality of modulated carrier signals detected in the recovered subcarrier signal (fig. 14; col. 16, line 66-col. 17, line 8, illustrates the collision detector 290 is capable of detecting collision based on the demodulated and decoded signals that are received from the demodulator and decoder 282).

Eng doesn't disclose the recovered subcarrier signal being capable of interpreting signal transitions in the recovered subcarrier signal.

Lee teaches the recovered subcarrier signal being capable of interpreting signal transitions in the recovered subcarrier signal (col. 2, lines 28-39; col. 1, lines 35-42, explains detecting the signal transitions to detect the presence of collision).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the collision detection circuit of Lee that teaches interpreting or detecting the signal transitions to detect the presence of collision into the RF receiver section 255 of Eng so that cheaper and reliable data collision device or circuit would be manufactured.

Regarding claims 6 and 10, the claimed method for detecting data collisions using a data collision detection device including the features corresponding to subject matter mentioned above in the rejection of claim 1 is applicable hereto.

4. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eng and Lee, as applied to claim 1 above, and further in view of Fitzrandolph (US 6,757,324).

Regarding claim 2, As applied above, the modified device of Eng discloses the means for decoding a recovered subcarrier signal (Eng, fig. 14) and detecting transitions at bit-center (Lee, col. 1, line 35, 61; col. 2, line 2, 2, 31). However, Eng includes a means for counting a number of transitions before and after a bit-center of the recovered subcarrier signal.

Fitzrandolph teaches a phase transition counter 554 counts the number of phase transitions (col. 6, lines 42-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the phase transition counter 554 to count the number of transitions as taught by Fitzrandolph into the modified system of Eng that teaches decoding the demodulated signals and determining the bit center. The motivation is to detect jamming by counting the transitions using the counter 554, which can be readily added to an existing receiver with no additional hardware requirement and impose a minimum burden on the processor and memory (Fitzrandolph, col. 1, lines 25-28).

Regarding claim 4, Eng discloses data collision detection device (290) for decoding received signals (282) from data transmitters (upstream transmitters and downstream RF transmitters 156 and 256, respectively), comprising: a module configured to de-modulate (demodulator and decoder 282) at least one modulated carrier signal corresponding to a received signal from at least one data transmitter to recover a subcarrier signal from the carrier signal (fig. 14; col. 16, lines 64-66) and detect a data collision (fig, 14, collision detector).

Eng doesn't disclose microcontroller operatively coupled to the module, the microcontroller being configured to count a number of transitions before and after a bit-center of the subcarrier signal and thereby detect a data collision.

Lee teaches signal transitions and bit center for detecting the presence of data collision (col. 2, lines 28-39; col. 1, lines 35-42).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the collision detection circuit of Lee that teaches detecting the signal transitions to detect the presence of collision into the RF receiver section 255 of Eng so that cheaper and reliable data collision device or circuit would be manufactured.

However, Lee doesn't disclose a controller for counting the number of transitions before and after the bit center of the signal.

Fitzrandolph teaches a phase transition counter 554 (analogous to microcontroller) counts the number of phase transitions (col. 6, lines 42-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the phase transition counter 554 to count the number of transitions as taught by Fitzrandolph into the modified system of Eng that teaches decoding the demodulated signals and determining the bit center. The motivation is to detect jamming by counting the transitions using the counter 554, which can be readily added to an existing receiver with no additional hardware requirement and impose a minimum burden on the processor and memory (Fitzrandolph, col. 1, lines 25-28).

5. Claims 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eng and Lee, as applied to claims 6 and 10 above, and further in view of Fitzrandolph and Philips Semiconductors ("I*CODE1 Label ICs Protocol Air Interface", Product Specification, Revision 1.5, May 2002).

Regarding claims 8 and 12, As applied above, the combined collision detection method of Eng and Lee discloses the step of decoding the recovered subcarrier signal (Eng, fig. 14) further comprises: determining a bit-center (col. 1, line 35, 60; col. 2, line 30, explains the bit center. Since Lee explains the presence of bit center, it is obvious for a person with ordinary skill to realize the determination of that bit center).

The modified collision detection method of Eng doesn't disclose measuring a number of transitions before and after the bit-center; detecting a logic 1 when the number of transitions are substantially before the bit-center; and detecting a logic 0 when the number of transitions is substantially after the bit-center.

Fitzrandolph teaches a phase transition counter 554 counts or measures the number of phase transitions (col. 6, lines 42-48).

Philips Semiconductors teaches logic 1 when the number of transitions are substantially before the bit-center, and detecting a logic 0 when the number of transitions is substantially after the bit-center (see the fig.s 1 and 2 of 6.2.2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the phase transition counter 554 to measure or count the number of transitions and to determine or detect the logic type as taught by Fitzrandolph and the Philip Semiconductors, respectively, into the modified system of Eng that teaches decoding the demodulated signals and determining the bit center in order to detect jamming using the counter with no additional hardware requirement and impose a minimum burden on the processor and memory.

6. Claims 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eng and Lee, as applied to claims 6 and 10 above, and further in view of Bandy et al. (US 6,625,464 B1).

Regarding claim 9 and 13, the modified data collision detection method of Eng discloses transmitting signals from plurality of transmitters (Eng, fig. 10A, upstream RF transmitters 156) and recovers the signals at the receiver (Eng, e.g. 154, downstream RF receiver) by demodulating and decoding the carrier signals. However, the modified collision detection method of Eng doesn't discloses sorting signals transmitted from the plurality of data transmitters that are detected in the recovered subcarrier signal.

Bandy teaches sorting the decoded transmission or transmitted signals in the subcarriers from the plurality of transmitters 50 (col. 13, lines 1-13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the signals sorting method of Bandy into the modified data collision method of Eng. The motivation is to save time and money by sorting the decoded signals in the recovered subcarrier of the transmission that are transmitted from plurality of transmitters once at the same time (Bandy, col. 2, lines 52-62).

Allowable Subject Matter

7. Claims 3, 5, 7 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kibrom T. Hailu whose telephone number is (571)270-1209. The examiner can normally be reached on Monday-Thursday 8:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Q. Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kibrom Hailu
04/19/07

RICKY Q. NGO
SUPERVISORY PATENT EXAMINER